

Constraints in Mathematical Statements

| Constraints in the mathematical statements | Linear inequality notation | |
|---|----------------------------|-----------------|
| 1. y is greater than x | | $y \geq h$ |
| 2. y is at most k times of x | | $x + y \leq h$ |
| 3. y cannot exceed x | | $y \geq kx$ |
| 4. y is less than two times of x by h or more | | $y > x$ |
| 5. The greatest (maximum) value of y is h | | $x - y \leq h$ |
| 6. x exceeds twice of y by at least k | | $y \geq mx$ |
| 7. Ratio of x to y is at least $m:n$ | | $y \leq k$ |
| 8. y is at least k times of x | | $x + y \leq k$ |
| 9. x exceeds y by at most k | | $x + y \geq m$ |
| 10. y is less than x | | $y \geq x$ |
| 11. y is not more than h times of x | | $y \leq kx$ |
| 12. The least (minimum) value of y is h | | $2x - y \geq h$ |
| 13. The sum of x and y is not less than h | | $nx \leq my$ |
| 14. The sum of x and y is at most h | | $y \leq hx$ |
| 15. The ratio of y to x is h or more | | $x - y \leq k$ |
| 16. x exceeds three times of y by k or less | | $x - 3y \leq k$ |
| 17. y is not more than k | | $nx \geq my$ |
| 18. The sum of x and y cannot exceed k | | $y \leq h$ |
| 19. y is not less than x | | $y < x$ |
| 20. y is not less than m times of x | | $x - 2y \geq k$ |
| 21. x cannot exceed y by more than h | | $y \leq x$ |
| 22. The sum (total) of x and y is at least m | | $x + y \geq h$ |
| 23. Ratio of x to y is not more than $m:n$ | | $y \geq hx$ |